Notes of EPA-California Call about the CES-Mendota Permit Application

Date: December 15, 2020

Participants: EPA Region 9, State Water Board, Regional Water Board, CalGEM, Cadmus.

The purpose of the call was to continue discussions of the state's comments on the Class VI permit application.

EPA has now issued four letters with comments and questions to the applicant. There is a great deal of similarity between EPA's and the state's comments.

Water Board Comments/Questions

The state and regional water boards shared their comments with EPA before the previous call in October. Since then, they have reviewed EPA's letters to the applicant and believe that their comments are being addressed. It is recognized that much of the needed information is pending data gathering during the drilling and pre-operational testing process.

CalGEM – Subsidence/Well Construction Comments

- There has been subsidence in the area, particularly to the southwest of the Mendota site. In the nearby Gill Ranch Field, subsidence is occurring at a rate of four inches per year; this has resulted in casing collapse and the re-emergence of abandoned wells. There is concern that a similar problem could arise at the Mendota site. The Field Rules for the Gill Ranch Field (and others) require relieving stress on the surface casing (e.g., via wellhead design that allows differential movement between the casings). However, since the federal Class VI Rule requires cementing of the surface casing to the surface, flexibility may be needed to address this potential concern.
- The state also has concerns that Cr-13 casing may not be compatible with a CO_2 stream with more than 1% oxygen. Assurance about corrosion resistance is needed.
- The state requires periodic testing of the subsurface safety valve (SSSV). CalGEM will provide a citation for this requirement.

CalGEM - Risk Analysis Comments

- There is concern about caprock integrity given that CES plans long-term injection without withdrawal of fluids, particularly if injection rates increase in later phases of the project. CalGEM recommends a risk evaluation of fault activation and subsidence-caused well failure to ensure that confining zone integrity will be maintained.
- EPA/Cadmus responded that, as part of the permit application evaluation, we are looking to ensure that good geomechanical data are collected to demonstrate that the confining zone will not be fractured. It would be reasonable to ask the applicant to perform a risk analysis regarding caprock integrity.
- Additional data will be collected as part of the pre-operational testing plan, which will increase understanding of subsurface pressures. In addition, during the injection phase, well testing and subsurface pressure-front monitoring will provide early warning of potential fracture creation/propagation or movement of fluids out of the injection formation.

Next Steps

- CalGEM has reviewed all of EPA's letters to the applicant and does not anticipate any further questions. EPA will share the applicant's responses from the applicant with the state.
- EPA's next steps include continuing to evaluate technical issues, addressing financial responsibility concerns (which are unique given the long timeframe of the project), and performing ESA and NHPA-required evaluations.
- Once the permit is issued, data will be collected prior to authorization of injection. EPA's current estimate is that construction would begin late in 2021.